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Swansea, you may depend upon it, is destined to become the Ocean Port of England."—Sir H. HUSSEY VIVIAN, Bart., M.P.

SWANSEA.

The affairs of the Port of Swansea are administered by a Public Trust, and the Rates are charged alike to all Persons in respect of the same description of Vessels and of Goods.

The Prince of Wales' Dock possesses one of the largest and deepest Locks in the Bristol Channel. The North and South Docks, though of older date, are supplied with the most modern Hydraulic Appliances. The Docks are surrounded by over twenty miles of Railway (the property of the Trustees), connecting them with the great Railway systems, viz., the Great Western, London and North-Western, and Midland, which enter Swansea by independent routes. The Quays, upwards of three miles in length, are furnished with 19 Hydraulic Coal Tips, and Hydraulic and other Cranes.

The Number of Vessels that entered and cleared in 1888 was 9,066, of 2,491,666 net reg. tons.

The total Trade of the Port in imports and exports in 1888 amounted to 2,607,358 tons, of the estimated value of £10,181,307. The Tonnage of Imports shews an increase of 45.19 per cent., and of Exports 85.74 per cent., whilst the Gross Revenue resulting from the foregoing discloses an increase of 70.83 per cent., compared with the corresponding figures for 1878.

These important increases are, to a very great extent, due to the excellent accommodation provided by the Prince of Wales' Deep Sea Docks, which were opened in 1882, and which are 40 miles nearer the open sea than Cardiff or Barry.

The quantity of Copper smelted in the Local Works in a year is about 21,000 tons, of the value of £1,631,250; Steel, 500,000 tons, of the value of £2,500,000. The Spelter, or Zinc, manufactured in Swansea forms 19.20th of the whole production of the Kingdom, of the total value of £500,000, one year's make of Tin and Terne Plates in the neighbourhood of Swansea is about six million boxes, valued at £4,000,000 sterling. The total shipment of Tin Plates at Swansea in 1878 was 211,225 boxes, weighing 12,425 tons, which had increased in 1888 to 3,370,803 boxes of 201,896 tons weight, of the value of £2,826,544. The manufacture of Chemicals, Patent Fuel, Welsh Woollen Goods, and Railway and Engineering Plant are also among the Staple trades of the Town and Port. There are over 140 Works of 36 varieties, employing upwards of 30,000 hands, within a radius of four miles from Swansea Harbour.

On the completion of the Rhondda and Swansea Bay Railway, Swansea will be the nearest Port to the celebrated Rhondda Valley. The boring of the Tunnel through the Mountain, the last link of this important line, has been effected, and during the coming summer the line will be open for traffic. Coal of the same quality as that known as "Cardiff Coal" will then be shipped under the most favourable conditions. In addition the line also passes through the Avon Valley, a virgin coal field, to which shippers are already directing their attention in view of the partial exhaustion of the older Rhondda Workings. This Valley lies between Swansea and the Rhondda district, and is therefore **MANY MILES NEARER TO SWANSEA THAN TO CARDIFF OR BARRY.**

The Mumbles Lighthouse Signal Station is connected with the Post Office system of Telegraphs. Vessels calling for orders can communicate with the owners without lowering a boat—good and sheltered anchorage being found under the Mumbles Head at any state of the tide free of charge. Registered Telegraph Address: "Swansea Bay Signal Station."

For information on any point connected with the Port and Harbour apply to

JOHN DIXON,

General Superintendent

Registered Address of Telegrams: "DIXON," SWANSEA.

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THE
“SHIPPING WORLD” YEAR BOOK:
=

A DESK MANUAL
IN
TRADE, COMMERCE, AND NAVIGATION.

EDITED BY
EVAN ROWLAND JONES,
[United States Consul.]

1890.

“Infinite riches in a little room.”

C. MARLOWE.

London :
PRINTED AND PUBLISHED
AT THE
“SHIPPING WORLD” OFFICE,
GRESHAM PRESS BUILDINGS, LITTLE BRIDGE STREET.

1890.

The Shipping World Year Book AND Port Directory.

ALMANACK FOR 1890.

ARTICLES OF THE CALENDAR FOR THE YEAR 1890.

Golden Number	...	...	10	Dominical Letter...	...	F
Epact	...	...	9	Roman Indiction...	...	3
Solar Cycle	...	...	23	Julian Period	...	6603

ECLIPSES.

June 17th—Annular Eclipse of the Sun, visible as a partial Eclipse at Greenwich. 8.20 a.m.

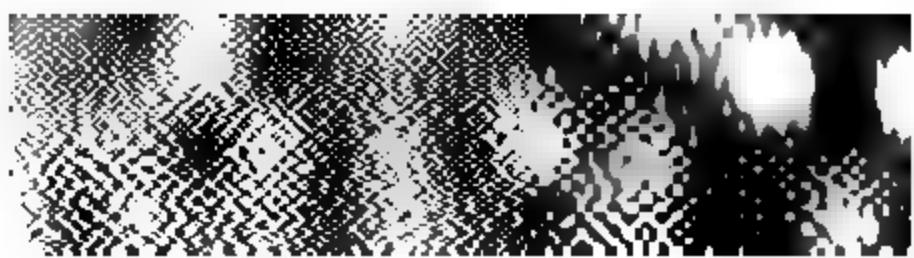
Nov. 25th—Partial Eclipse of the Moon, invisible at Greenwich. First contact, 1.28 p.m.

December 11th—Total Eclipse of the Sun, invisible at Greenwich.

The Year 5651 of the Jewish Era commences on Sept. 15, 1890.

Ramadân (Month of Abstinence observed by the Turks) commences on April 21, 1890.

The Year 1308 of the Mohammedan Era commences on August 17, 1890.



THE "SHIPPING WORLD" YEAR BOOK 1890.

1890.

LORD SALISBURY'S SECOND MINISTRY.

ENTERED OFFICE AUGUST 3, 1886.

Office.

Prime Minister & Foreign Secretary	.....
Lord Chancellor	
Lord President of the Council	
Lord Privy Seal	
First Lord of the Treasury	
Chancellor of the Exchequer	
Home Secretary	
Colonial Secretary	
Indian Secretary	
War Secretary	
First Lord of the Admiralty	
Chief Secretary for Ireland	
Lord Chancellor of Ireland	
President of the Board of Trade ..	
Chancellor of Duchy of Lancaster ..	
President Local Govt. Board ..	
President Board of Agriculture ..	

[The above form the Cabinet.]

FOREIGN MAIL.

No Colonial or Foreign letter to exceed 2 feet in length, or 1 foot in width or depth.

**FOREIGN MONEYS,
AND THEIR VALUES IN ENGLISH AND UNITED STATES
MONEY.**

Country.	Monetary Units.	Standard.	Value in English Money.	Value in U.S.
Argentine Republic ..	Peso fuerte	Gold	4 0 0	\$ 100.00
Austria	Florin	Silver	0 4 2	1.00
Belgium	Franc	Gold	0 2 12	47.3
Bolivia	Dollar	Silver	0 0 96	19.30
Brazil	Milreis of 1,000 reis ..	Gold	0 3 1	83.6
British Possessions in North America	Dollar	Gold	0 2 3	54.5
Central America	Peso	Gold	0 4 0	100.00
Chili	Peso	Silver	0 3 1	83.6
China	Paoi	Gold	0 2 0	47.3
Cuba	Peso	Pure Silver	0 0 83	162.00
Denmark	Crown	Gold	0 3 104	98.48
Ecuador	Peso	Gold	0 1 1	26.00
Egypt	Pound of 100 piasters ..	Silver	0 3 1	83.6
France	Pound	Gold and Silver	0 0 96	19.30
Great Britain	Pound Sterling	Gold	0 0 0	4 86.65
Greece	Drachma	Gold	0 0 96	19.30
German Empire	Mark	Gold	0 1 0	23.25
Hayti	Dollar	Silver	0 4 2	100.00
Jamaica	Pound Sterling	Gold	0 0 0	4 86.65
Japan	Yen	Gold and Silver	0 4 2	99.70
India	Rupee of 16 annas ..	Silver	0 2 0	39.7
Italy	Lira	Gold and Silver	0 0 96	19.30
Liberia	Dollar	Gold	0 4 0	100.00
Mexico	Dollar	Silver	0 3 7	90.9
Netherlands	Florin	Gold and Silver	0 1 8	40.20
Norway	Crown	Gold	0 1 1	26.00
Paraguay	Peso	Gold	0 4 2	100.00
Peru	Sol	Silver	0 3 0	83.6
Porto Rico	Peso	Gold	0 3 10	98.48
Portugal	Milreis of 1,000 reis ..	Gold	0 4 5	100.00
Russia	Rouble of 100 copecks ..	Silver	0 3 2	66.9
Sandwich Islands	Dollar	Gold	0 4 2	100.00
Spain	Peseta of 100 centimes ..	Gold and Silver	0 0 96	19.30
Sweden	Crown	Gold	0 1 1	26.00
Switzerland	Franc	Gold and Silver	0 0 96	19.30
Tripoli	Mahbab of 100 piasters ..	Silver	0 3 1	74.8
Tunis	Piaster of 16 caroubs ..	Silver	0 0 6	12.50
Turkey	Piaster	Gold	0 0 24	64.0
United States of Co- lombia	Peso	Silver	0 3 1	83.6
Uruguay	Patacon	Gold	0 3 11	94.95
Venezuela	Dollar	Gold and Silver	0 1 96	19.3

DISCOUNT PER CENT.

| $\frac{1}{2}$ | in | s. d. |
|---------------|----|-------|---------------|----|-------|---------------|----|-------|---------------|----|-------|
| 2 | in | 0 6 |
| 3 | in | 1 0 |
| 7½ | in | 1 6 |
| 10 | in | 2 0 |

**COLONIAL AND FOREIGN WEIGHTS AND MEASURES,
WITH THEIR EQUIVALENTS.**

Countries	Weights for Gold, Silver, &c.	Commercial Weight.		Land Measure.	Cubic Measure.	Liquid Measure.
		Troy grains	Cloth Measure.			
AUSTRO-HUNGARY	Mark 4333 Pounds 1.13 The French Metre System has been introduced.	Imperial Inches Eli, Vienna .. 30.66 Trieste .. Wool, 16.66 Silk .. 25.92	Imperial Inches Eli, Vienna .. 30.66 Foot .. 32.45 Inch Joch .. 4.71 miles	Imperial Joch .. 4.71 miles	Metres = 4 Metres, 30.66 Muth = 30 Metres, 30.76	Imperial barrels Eimer, 30 Fuder = 30 Eimer, 30.63
BAVARIA	Same as in Germany	Empire				
BELGIUM	Same as in France	France				
BRAZIL	Same as in Portugal	Portugal				
BR. AYAR	Same as in Spain	Spain				
CANADA	Same as in Great Britain	Great Britain				
CHINA	Tael .. 50 Catty .. 13.3 Picul .. 133.33 = 100 Catties	Catty .. 13.3 Pound .. 1.10 Centner .. 11.25	Foot .. 34.71 Inch .. 4.63 miles	Foot .. 34.71 Inch .. 4.63 miles	Barrel or Tonnde .. 1.35 Last = 16 Tonndes .. 45.91 Almond .. 30	Viertel .. 1.35 Oxholt = 30 Viertel, 31.02
DENMARK	Mark 3633 Pounds .. 1.10 Centner .. 11.25	Centner .. 11.25				
Egypt	Rottolo	Rottolo, 1.93 The French Metric System is also used.	Pic .. 36.10			
FRANCE	Gramme .. 15.43 Kilogramme .. 1000 Grammes	Metre .. 39.37 Kilometre .. 62 stade Hectare .. 3.67 Quintal .. 200.30 = 100 Kilogrammes	inch Arc .. .003 .62 stade Hectare .. .003 = 100 Metres. Metrametre, 6.31 miles = 10 Kilometres	Metre .. 39.37 Kilometre .. .003 = 100 Metres. Metrametre, 6.31 miles = 10 Kilometres	Decalitre .. .007 = 100 Litres .. .075 = 100 Hectolitre .. .007 = 1000 Litres .. .075	Litre .. .007 Decalitre .. .007 10 Litres, 2.30 Hectolitre .. .007 1000 Litres .. .075
GERMAN EMPIRE	Gramme .. Same as in France	Meter or Stab .. Kilogramme .. France	Meter or Stab .. Kilogramme .. France	Metre or Stab .. Kilogramme .. France	Metre or Stab .. Kilogramme .. France	Litre or Kanne .. Same as in the Metric System of France.
GREECE	HAMBURG	Same as in Germany				
HOLLAND	Same as in France	German Empire .. Same as in France				
						Hektoliter .. .47 Vat = 100 Kannen

COLONIAL AND FOREIGN WEIGHTS AND MEASURES.

11



THERMOMETER.

19

THERMOMETER.

Fahrenheit, Réaumur, and the Centigrade Scales



TIME, AT FULL AND CHANGE,
WHEN THE FOLLOWING LIGHTSHIPS SWING FROM FLOOD
TO EBB.

NAME OF LIGHTSHIP.	LAT.	LON.	TIME	OBSERVATIONS.
Bahama Bank	54 20 0 N	4 12 0 W	11 45	2nd high water.
Calshot	50 48 40 N	1 16 45 W	10 25	1st high water.
			12 0	2nd high water.
Cardigan Bay	52 24 30 N	5 0 30 W	10 30	"
Carnarvon Bay.....	53 5 40 N	4 44 30 W	10 30	"
Cockle	52 41 20 N	1 46 20 E	10 20	
Corton	52 31 30 N	1 49 30 E	10 45	[then N.N.E. at 8
Dudgeon	53 15 0 N	0 56 0 E	7 0	Turns Eastward at 7.
East Goodwin	51 13 0 N	1 36 25 E	9 10	Uncertain.
English & Welsh Ground.	51 26 30 N	2 58 0 W	6 56	2nd high water.
Galloper	51 45 0 N	1 55 50 E	12 0	
Gull	51 16 0 N	1 28 25 E	9 13	
Hasbro'	52 58 0 N	1 36 0 E	10 30	
Helwick	51 31 0 N	4 24 0 W	6 0	2nd high water.
Inner Dowsing	53 19 20 N	0 34 20 E	7 0	Turns Eastwd. at 7, N.E. at 9, N.N.W. at 12. Slack lasts about 20 min.
Kentish Knock.....	51 39 30 N	1 41 0 E	11 20	Slack lasts about 20 min.
Leman and Ower.....	53 8 30 N	2 0 20 E	11 0	
Lynn Well	53 1 25 N	0 25 10 E	6 20	
Morecombe Bay	53 54 0 N	3 31 0 W	10 30	2nd high water.
Nab	50 42 15 N	0 59 25 W	12 0	About.
Newarp	52 45 0 N	1 53 0 E	10 30	[out from Sheerness.
Nore.....	51 29 0 N	0 48 0 E	12 30	The last 2 hours ebb, sets
North Goodwin.....	51 19 30 N	1 35 20 E	10 13	Uncertain.
Outer Dowsing.....	52 28 15 N	1 2 40 E	8 0	Turns' Eastward at 8.
Owers	50 38 35 N	0 41 0 W	10 35	About. [then N. at 9.
Royal Sovereign	50 42 40 N	0 26 50 E	10 45	Swings about 15 mins. be-
Seven Stones.....	50 3 50 N	6 4 30 W	5 0	2nd high water. [fore h.w
Shambles	50 30 50 N	2 20 0 W	10 20	
Shipwash	52 1 30 N	1 23 0 E	11 10	Slack lasts about 40 mins.
South Sand Head	51 9 12 N	1 28 10 E	9 0	Uncertain.
Spurn	53 34 0 N	0 13 0 E	6 20	
Sunk	51 50 40 N	1 30 30 E	11 40	Slack lasts abou 40 mins.
Tongue	51 29 0 N	1 19 20 E	12 15	
Varne	50 56 10 N	1 16 50 E	8 20	Uncertain.

SPECIFIC GRAVITY OF DIFFERENT SUBSTANCES,

COMPARED WITH WATER.

LIQUIDS, &c.	TIMBER.	METALS.
Water	Cork	Zinc
Sea Water	Poplar	Cast-iron
Alcohol	Fir	Tin
Olive Oil	Cedar	Bar Iron
Turpentine	Pear	Steel
Petroleum	Walnut	Copper
Wine.....	Cherry	Brass
Cider	Maple	Silver
Beer	Apple	Lead
Porter	Ash	Mercury
Gravel or Sand, abt.	Beech	Gold
Granite	Mahogany	Platina
	Oak	
	Ebony	

A gallon of wine or water weighs 10lb.

TABLES,

LONGITUDE.

Lighthouses.

To find the height at which a Light should be put above the sea level to show a given number of miles:—

Multiply the number of miles by itself, and by 4, and divide the product by 7. Thus, a lamp required to show ten miles—
 $10 \times 10 = 100 \times 4 = 400$
7)—————

55 $\frac{1}{7}$ feet.

Should be 55 $\frac{1}{7}$ feet high above the sea level.

SCALE FOR VICTUALLING MERCHANT VESSELS AT SEA.

52

1

32

4

1

10

2

DIETARY SCALE (WITH FRESH BEEF) FOR CREW.

12

15

2

10

1

2

卷之三

103

TABLE,

Showing the dimensions of the Common Links, Weights and Scale of Proofs for Chain Cables supplied for Her Majesty's Navy.

ADMIRALTY CRANE CHAIN.

Close linked for Rigging, Cranes, &c., extreme length of link not to exceed 5 diam., and to be proved by a Proving Machine.

in.	diam.	32 $\frac{1}{2}$ tons.	in.	diam.	9 $\frac{1}{2}$ tons.	in.	diam.	2 $\frac{1}{2}$ t. lbs.
2 $\frac{1}{2}$	11	32 $\frac{1}{2}$	2 $\frac{1}{2}$	11	9 $\frac{1}{2}$	1 $\frac{1}{2}$	11	1 $\frac{1}{2}$
3	12	22 $\frac{1}{2}$	3	12	6 $\frac{1}{2}$	2 $\frac{1}{2}$	12	2 $\frac{1}{2}$
3 $\frac{1}{2}$	13	18 $\frac{1}{2}$	3 $\frac{1}{2}$	13	5 $\frac{1}{2}$	3 $\frac{1}{2}$	13	3 $\frac{1}{2}$
4	14	15 $\frac{1}{2}$	4	14	4 $\frac{1}{2}$	4	14	4
4 $\frac{1}{2}$	15	12 $\frac{1}{2}$	4 $\frac{1}{2}$	15	3 $\frac{1}{2}$	5	15	5
5	16	10 $\frac{1}{2}$	5	16	3	6	16	6
5 $\frac{1}{2}$	17	8 $\frac{1}{2}$	5 $\frac{1}{2}$	17	2 $\frac{1}{2}$	7	17	7
6	18	7 $\frac{1}{2}$	6	18	2	8	18	8
6 $\frac{1}{2}$	19	6 $\frac{1}{2}$	6 $\frac{1}{2}$	19	1 $\frac{1}{2}$	9	19	9
7	20	5 $\frac{1}{2}$	7	20	1	10	20	10
7 $\frac{1}{2}$	21	4 $\frac{1}{2}$	8	21	0 $\frac{1}{2}$	11	21	11
8	22	4 $\frac{1}{2}$	9	22	0 $\frac{1}{2}$	12	22	12
8 $\frac{1}{2}$	23	3 $\frac{1}{2}$	10	23	0	13	23	13
9	24	3 $\frac{1}{2}$	11	24	0	14	24	14
9 $\frac{1}{2}$	25	2 $\frac{1}{2}$	12	25	0	15	25	15
10	26	2 $\frac{1}{2}$	13	26	0	16	26	16
10 $\frac{1}{2}$	27	1 $\frac{1}{2}$	14	27	0	17	27	17
11	28	1 $\frac{1}{2}$	15	28	0	18	28	18
11 $\frac{1}{2}$	29	0 $\frac{1}{2}$	16	29	0	19	29	19
12	30	0 $\frac{1}{2}$	17	30	0	20	30	20

FORMULA FOR SAFE LOAD ON CHAINS (WORKING LOAD).

D = Diam. in $\frac{1}{16}$ ths of an inch.
W = Safe Load in tons.

$$D = \sqrt{\frac{8W}{D^2}}$$

Thus in $\frac{1}{16}$ in. Chain, D=6

$$\text{Then } W = 6^2 = \frac{36}{8} = 4\frac{1}{2} \text{ tons.}$$

$$D = \sqrt{\frac{8W}{D^2}} \text{ or } \sqrt{\frac{8 \cdot 4\frac{1}{2}}{6^2}} = \sqrt{\frac{36}{36}} = 1\frac{1}{2} \text{ tons.}$$

Section 39, Act 1855. Cook and cooking apparatus.
 Section 40, Act 1855. In what cases interpreters must be carried.
 Section 41, Act 1855. In what cases a medical man must be carried.

Section 42, Act 1855. Qualification of medical men.
 Section 43, Act 1855. Medicines and medical comforts.
 Section 44, Act 1855. Medical inspector of passengers and medicines, &c. Proviso where no medical inspector can be obtained.

Section 45, Act 1855. Re-landing sick passengers.

Passengers' Rights before, during, and after the voyage.

Section 46, Act 1855. Return of passage money to sick passengers re-landed.

Section 41, Act 1863. Return of half-passage money to sick cabin passengers re-landed.

Section 47, Act 1855. Subsistence money to be paid to passengers so re-landed.

Section 48, Act 1855. Return of passage money if passage not provided according to contract.

Section 49, Act 1855. Subsistence money in case of detention.

Section 50, Act 1855. Stores to be replenished when ships put back, and report to be made immediately to Emigration Officer.

Section 14, Act 1863. Passengers' rights in case of wreck or other disaster off the coast. They may be landed for the ship to be repaired.

Section 52, Act 1855. The Secretary of State, Governor or Consul may pay expenses of taking off passengers at sea.

Section 15, Act 1863. Governors or Consuls may send on to their destination shipwrecked passengers, if the master of the ship fail to do so.

Section 16, Act 1863. Expenses incurred under last two sections to be a Crown debt.

Section 55, Act 1855. Insurance of passage-money not to be void on account of nature of the risk.

Section 56, Act 1855. Passengers not to be landed elsewhere than at destination.

Section 57, Act 1855. Passengers to be maintained 48 hours after arrival.

Section 58, Act 1855. Passengers' right of action preserved.

Miscellaneous Provisions.

Section 59, Act 1855. Rules may be prescribed by order in council for health, cleanliness, and ventilation.

Section 60, Act 1855. Surgeon and master to enforce such rules.

Section 61, Act 1855. Copy of Act and extract of Order in Council to be kept and exhibited on board.

Section 62, Act 1855. Sale of spirits on the voyage prohibited.

Section 63, Act 1855. Bond to the Crown by master, &c., in duplicate.

Section 17, Act 1863. Bond when owner, master, or charterer resides abroad.

Section 64, Act 1855. Counterpart of bond to be forwarded to colony.

Section 65, Act 1855. In the absence of agreement to the contrary the owner to be responsible in respect of any default in complying with requirements of Act.

Section 4. Deductions in certain Steamships.—In screw-steamships where an engine-room allowance of 32 per cent. of gross-tonnage has been allowed at time of passing the Act, and which any crew space on deck has not been included in gross tonnage, whether its contents have been deducted therefrom or not, the crew space shall be, on the application of the owner or by direction of the Board of Trade, measured and added to register-tonnage; and if it appears that with such addition the engine-room does not occupy more than 13 per cent. of the tonnage of the ship, the existing allowance of 32 per cent. shall be continued, notwithstanding anything in this Act.

Section 5. Measurement of Ships with Double Bottoms for Water Ballast.—If the spaces between the inner and outer plating is certified by Board of Trade surveyor to be not available for cargo stores or fuel, then depth required by Section 21, paragraph 2, of Merchant Shipping Act, 1854, shall be taken to be the upper side of inner plating of double bottom, which is to be deemed the floor-timber referred to in that section.

Section 6.—Re-measurement of Foreign Ships.—Where tonnage of any foreign ship materially differs from that which would be her tonnage under the Merchant Shipping Act, 1854, and Amending Acts, Her Majesty may by Order in Council direct that such ships may be remeasured in accordance with those Acts.

Section 7. That this Act be cited as the Merchant Shipping (Tonnage) Act, 1889, and be construed as one with the Merchant Shipping Act, 1854, and the Acts amending the same.

THE MERCHANT SHIPPING (COLOURS) ACT, 1889.

Section 1. Red ensign usually worn by merchant ships is hereby declared to be the proper national colours for all ships and boats belonging to any subject of Her Majesty, except in the case of Her Majesty's or other ships allowed to wear other colours by Royal Warrant or by Admiralty.

Section 2. A ship belonging to any subject of Her Majesty shall, on a signal from one of Her Majesty's ships, and on entering or leaving any foreign port, and if of 50 tons gross or upwards, shall also, on entering or leaving any British port, hoist the proper national colours, under a penalty from the master of one hundred pounds. Sea-fishing boats registered under the Sea Fisheries Acts are exempted from this provision.

Section 3. Amendment of Section 105 of the Merchant Shipping Act, 1854.—Penalties incurred in respect of the improper hoisting of colours or of a pendant in British ships, with costs, may be recovered in Superior Courts in England, Ireland, or Scotland. Any offence mentioned in that section may also be prosecuted and penalty recovered as in the case of offences declared by Merchant Shipping Act, 1854, punishable by penalties not exceeding £100.

Section 4. Defines "one of Her Majesty's ships" as a vessel under command of an officer of Her Majesty's Navy on full pay.

Sections 5 and 6. Saving Admiralty powers in respect of red ensign usually worn by Merchant Ships, and citing this Act as the "Merchant Shipping (Colours) Act, 1889."

SHIPS ENTERED AND CLEANED.—(Continued.)

TOTAL SHIPPING TRADE OF GREAT BRITAIN & IRELAND IN THE PAST THREE YEARS.

Vessels Entered.	Vessels Cleared.			Total Number of Vessels Registered.			Total Number of Vessels Employed.			Total Number of Persons Employed.		
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	British.	Foreigners.
1886 346,686	75,041,451	300,108	69,235,663	37,569	9,246,738	17,917	7,144,097	162,614	25,183			
1887 357,405	77,664,486	319,914	71,978,474	36,373	9,135,512	17,723	7,123,754	160,913	24,046			
1888 377,459	81,525,727	341,979	76,510,792	36,463	9,209,883	17,584	7,352,888	172,969	25,277			

TABLE A.—(Continued.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

A. Correction in inches for a change of 10 ft. in the length.
 B. Deduction in inches for summer voyages.
 C. Addition in inches for winter, North Atlantic.

TABLE B.—(Continued.)
Height of Freeboard Amidships (Winter), Measured from Top of Spar Deck at Side.

Coefficient of Fineness	Moulded Depth (to Main Deck) and Length												
	ft. in. 23 6	ft. in. 24 0	ft. in. 24 6	ft. in. 25 0	ft. in. 25 6	ft. in. 26 0	ft. in. 26 6	ft. in. 27 0	ft. in. 27 6	ft. in. 28 0	ft. in. 28 6	ft. in. 29 0	
66	372	373	378	384	390	396	402	408	414	420	426	432	438
68	373	375	380	386	392	398	404	410	416	422	428	434	444
70	375	378	383	389	395	401	407	413	419	425	431	437	447
72	377	380	385	391	397	403	409	415	421	427	433	439	449
74	379	382	387	393	399	405	411	417	423	429	435	441	451
76	381	384	389	395	401	407	413	419	425	431	437	443	453
78	383	386	391	397	403	409	415	421	427	433	439	445	455
80	385	388	393	399	405	411	417	423	429	435	441	447	457
82	387	390	395	401	407	413	419	425	431	437	443	449	459
A	1'3	1'3	1'3	1'3	1'3	1'3	1'3	1'3	1'3	1'3	1'3	1'3	1'3
B	5	5	5	5	5	5	5	5	5	5	5	5	5
C	5	5	5	5	5	5	5	5	5	5	5	5	5

A. Correction in inches for a change of 10 ft. in the length.
B. Deduction in inches for summer voyages.
C. Additions in inches for winter, North Atlantic.

TABLE C—CARGO-CARRYING AWNING-DECK VESSELS.

Table of Reserve Buoyancy and Freshness for First-class Sea-going Awning-deck Steam Vessels (in Salt Water)

FREEBOARD.	100			125			150			175			200		
	100	125	150	100	125	150	100	125	150	100	125	150	100	125	150
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175
200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200

A. Corrections in inches for a change of 10 ft. in the length.
 B. Reduction in inches for winter, North Atlantic.
 C. Additions in inches for winter, North Atlantic.

TABLE C-2 (Continued.)

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A. Correction is instant for a change of 10°. In the length C. Addition in inches \times whster, North Atlantic.

TABLE D.—SAILING VESSELS.
Table of Reserve Buoyancy and Freshboard for First-class Sea-going Iron and Steel Sailing Vessels and Composite and Wood Vessels of the Highest Class (in Salt Water).

A. Correction is located near a change of 10 N. in the magnet.

WIRTSCHAFTS- UND INDUSTRIE-RECHT

20 ft. 50 lbs manga.
Additional 10 inches for winter. North Atlantic.

TABLE B.-(Continued.)

Ancona (Italy), A. P. Tomassini, V.C.
Angola, see *Loanda*
Angora (Turkey), Tom Newton, V.C.
Antananarivo (Madagascar), W. C. Pickersgill, V.C.
Antofagasta (Chili), J. Barnett, V.C.
Antwerp (Belgium), G. R. Perry, C.G.
Archangel (Russia), J. B. Cobb, V.C.
Arica (Chili), W. Finlayson, V.C.

THE PRINCIPAL NATIONS, GOVERNMENTS, RELIGIONS, POPULATION, AREA, PUBLIC DEBT,
RULERS, &c., OF THE WORLD.

Abbreviations:—D. = Duchy; E. = Empire; F.S. = Free State; G.D. = Grand Duchy; K. = Kingdom; O.E. = Ottoman Empire; P. (in Government) = Principality; R. = Republic; S. = Sultancy; B. = Buddhism; C. = Christian; D.R.C. = Dutch Reformed Church; G.C. = Greek Church; G.R. = Greco-Russian; M. = Mahometan; P. (in Religion) Protestant; P.E. = Protestant Episcopal; R.C. = Roman Catholic; R.P. = Reformed Protestant.

RATES OF FREIGTS ON CERTAIN ARTICLES, AT THE FOLLOWING DATES, IN THE
UNDERMENTIONED TRADES.

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oil-cake, grain, timber, &c. ; E. Clay, timber, pitwood, &c.

* Sill above Datum.

NOTE.—The depth of water over the sills of the Sandon Graving Docks can be increased to any desired extent by pumping into the Sandon Dock from the River, so as to allow deep-draughted vessels to enter at low neap tides.

In case of weather or hazard, the pilot in charge shall be entitled to an additional of the pilotage charge in addition, according to the rate which may have existed before the pilot got into the service of the foreigner, a click or collected as follows: 200 tons and under 6d; 200 and over 300 tons 1s; 300 tons 1s 6d; 300 and under 400 tons 2s; 400 and upwards 2s 6d.

Pilotage. (For the whole length of the canal): under 30 tons 1s 6d; 300 tons and over 300 tons 4d; above 300 tons to 400 tons 4s, for the remainder 2d on each way.

Officers. Bar., Jack and Sausal Co., H. Waddy; Hatch and Color Master and Pilot's Agent, Capt. D. Farren, R.N.; Hatch Master and Pilot's Agent (Sharpness), Capt. Calway; Coll. of H.M. Customs, Lt. S. Fletcher.

Hotels. At Gillingham, "The Albion;" at Sharpness, "Pembroke Railway."

SHEERNESS, Kent. Lat. 51° 26' 48" N.; long. 0° 44' 22" E. A seaport and naval station situated on the Island of Sheppey at the mouth of the Medway, 11m NE. from Chatham. Ry. L.C. & D. The important government dockyard at this place has an area of about 60 acres.

Hotels.—"Royal," "Royal Fountain."

SHETLAND ISLANDS, situated about 50m NE. of the Orkney Islands, and 210m from Bergen in Norway. Sumburgh Head, the S. promontory of the principal island, Mainland or Domna, is in lat. 59° 49' N.; and the most northern point of Unst, the most remote of the group, is in lat. 60° 51'. The islands are about 90 in number, the principal being Mainland or Domna, Yell, Unst, Whalsay, Bressay, East Burra, West Burra, Trondra, Fetlar, Papa Stour, Muckle Ross,

Navigation School—

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Rosser, W. H.	xxxii

Oils, Paints, and Varnish—

Goodall & Co.	xxiv
Graham, M. & Co.	xxxv
Holzapfel & Co.	facing preface

Printers—

Unwin Bros.	xxxvi
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Publications—

Civil and Mechanical Engineering	xxviii
Harbours and Docks	xxviii
Industries	xxviii
Liverpool Journal of Commerce	xxvi
Newcastle Chronicle	xxvii
Newcastle Daily Leader	xxvii
Scott's Code....	xxxv
Shipping World Series	xxxviii
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Pumps—

Drysdale & Co.	xxxxvii
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Refreshment Contractors—

Culley, R. P. & Co.	xvii
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Rope Manufacturers—

Cardiff Ropeworks Co., Ltd.	xxx
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Ship and Insurance Brokers—

Baker & Butt.	xxx
Batt, A. W.	xxvi
Best, J. P. & Co.	xxxiv
Bradbeer, B. M.	xxxii
Clapham, H. & Co.	xxxiii
Crosby, J. W. & Co.	xxxiv
Curtiss & Sons	xxxiii
Daley & Foley.	xxxi
Davies, J. R. & Co.	xxxii
England, P. W.	xxxiv
Hadlow & Beavis.	xxxiii
Oates, Thos. & S.	xxxii
Pritchard Bros and Co.	xxxiii
Pyatt, John	xxxii
Salt, Chas. & Co.	xxxiv
Turner, F. W.	xxxii
Watson, Thos.	xxxiii

Shipbuilders and Repairers—

	PAGE
Blyth Shipbuilding Co., Ltd.	xxx
Bute Shipbuilding Co., Ltd.	xiv
Dunston-on-Tyne Shipbuilding, &c. Co.	xxxii
Hepple & Co.	xxxii
Lean, Anderson & Co.	xxxvii
Mountstuart Shipbuilding Co.	xv
Roberts, J. H.	xxxii
Simons, W. & Co.	xli
Swan & Hunter	xxiv
Swansea Dry Docks Co., Ltd.	xxxii
Tyne Pontoon Co., Ltd.	xxxii
Wallsend Pontoon Co., Ltd.	xxxii

Ship Chandlers—

Elliott, Joseph and Sons	xxx
Jenkins, Sydney D. & Son	xxxii
Knapp Bros. & Co.	xxx

Shipping Agents—

Best, J. P. & Co.	xxxxv
Blaiklock Bros.	xxxxiv
Bradbeer, B. M.	xxxii
Curtiss & Sons	xxxiii
Ehas, F. X.	xxxv
Shackleton, J. F. & Son.	xxxii

Ships' Biscuits—

Baker, Wm. & Sons.	xxxxii
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Shipping Tackle—

Patent Ferrule Co.	xxx
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Steamships—

"Atlantic Transport" Line (Williams, Torrey & Field, Ltd.)	xxxxix
"Laird" Line	xli
"Orient" Line	xi
"State" Line	xli

Stavedores, &c.—

Low Level Haulage Co.	xxxxiii
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Tubes—

Benbow, P.	xxxx
Broughton Copper Co.	xxxxiii
Lloyd & Lloyd	xxxxii
Spencer, J.	xxxxiii

Bordering on the Docks there are upwards of **270** acres of land which offers superior and exceptional advantages for the establishment of **Timber Yards, Saw Mills, &c.**, and of **Manufactories and Industrial Works** in connection with the Shipping and Trade of the Port.

Bona-fide applications from Capitalists, Manufacturers, and others, to rent or lease portions of this land, addressed to the undersigned, will receive the favourable consideration of the Commissioners.

The Commissioners' **TIMBER PONDS**, at **Jarrow Slake**, opposite Northumberland Dock, having direct access from the river, cover an area of **89** acres.

The **TYNE**, as the **Principal Coal Port** in the Kingdom, affords unsurpassed advantages to vessels arriving with Inward Cargoes and requiring Outward Freights.

The yearly exports of Coal and Coke have reached upwards of **9½** million tons.

Ballast is quickly discharged or loaded from or into Vessels by the Commissioners' S.S. Ballast Hopper Barges.

Excellent facilities exist in the Port for discharging and loading Vessels, and for warehousing and storing all descriptions of General Merchandise, Timber, Grain, &c.

Vessels "calling" in the Tyne to "Bunker" at the Commissioners' Docks and Staiths, where they can obtain the best **Northumberland Steam Coal** on the most favourable terms, have the benefit of greatly modified Dues.

Information as to Rates and Charges may be obtained on application to the Commissioners' Traffic Manager, Northumberland Dock, Percy Main, or to

ROBERT URWIN,
Secretary.

TYNE IMPROVEMENT COMMISSION OFFICES,
NEWCASTLE-UPON-TYNE,
September, 1887.

